

## GAMING TERMINAL WITH FREE PLAY MODE METHOD

### RELATED APPLICATIONS

This patent application claims priority to U.S. Provisional Patent Application No. 60/410,987, entitled "Gaming Terminal With Free Play Mode Method", filed September 16, 2002, the disclosure of which application is incorporated by reference herein.

### BACKGROUND OF THE INVENTION

1. **Field of the Invention.** The present invention relates to a method and apparatus for providing casino games of chance in an electronic gaming terminal and, in particular, to a method and system for providing such free games without using an internal free game counter. And also in particular, to a method and a system for using the symbols shown in the outcome of the base casino game of chance for starting a bonus casino game of chance.
- 15      2. **Background Information.** It is well known to provide "free spin" symbols in the reels of gaming terminals such as casino slot games. In such games, a set number (e.g., 5) of free spins are awarded usually appearing as a multiple value (e.g., 5x for 5 free spins). Indeed, when in a free spin mode of operation, it is further conventional to provide even additional free spins that may be won by the player when the free spin symbol appears once again in the game outcome during a free spin mode.

In such prior art approaches, a form of a hardware or software counter exists in the gaming terminal which starts at either a

5 predetermined or a random value known to the player. When in the free spin mode of operation, the counter decrements once for each free spin (and if additional free spins are won during the free spin mode, the counter increments). Eventually the counter reaches zero, at which point the play reverts back to normal play mode.

10 In U.S. Patent 6,443,452, free game rounds (or free spins) are provided in which the overall, long-term averaged pay back amount is unchanged when the free game round is incorporated into a gaming terminal. In this patent, if a game outcome results in two free spins and a 2x multiplier occurs in the game outcome, the 2x multiplier is applied to the two free spins to result in an award of 4 free spins. The 4 free spins occur and the free spin mode is over.

15 A need exists to eliminate a finite number of free spins (or free games) in order to further increase player interest and excitement in the play of the gaming terminal as the player does not know and so cannot grow accustom to and feel limited to a finite number of free spins. A need exists to provide a free spin mode of play in which the player believes he/she is gambling for free. This provides, psychologically, a powerful motivator to encourage play. Hence, a 20 need exists to provide a free play mode that continues (i.e., uninterrupted) until a triggering event kicks the player back into normal play mode for the casino game of chance play (base game) at the gaming terminal. Finally, a need exists to use the symbols shown as the outcome of the base game and the selection of at least one of them for starting an additional bonus game.

25

**SUMMARY OF THE INVENTION**

The present invention provides a base casino game of chance such as a video slot reel game in which a wager is received from a player in normal play mode. The base casino game of chance generates a game outcome in normal play mode. When the game outcome or a portion thereof matches a free play mode game outcome (first game outcome), then continuing in free play mode to play the base casino game of chance until a game outcome or a portion thereof matches a stop free play mode game outcome (second game outcome). The base casino game of chance then returns to normal play mode. The player, in one embodiment selects the first game outcome to enter free play mode. The frequency of entering the free play mode from the normal play mode is less than the frequency of entering the normal play mode from the free play mode.

The present invention uses the symbols shown in the play outcome of the base game casino game of chance for starting or participating in an additional bonus game such as a free play mode.

**BRIEF DESCRIPTION OF THE DRAWINGS**

Figure 1 sets forth a representation of a five reel, prior art, slot pay line display in one embodiment of the present invention.

5       Figure 2 sets forth the display of Figure 1 wherein a special symbol of the present invention appears carrying a message.

Figure 3 sets forth the five reel slot of Figure 2 wherein the player selects a symbol paying an award.

Figure 4 sets forth the five reel slot of Figure 2 and the selection by a player of a symbol providing a free play.

10      Figure 5 sets forth the slot display of Figure 4 indicating to the player the start of the free play mode.

Figure 6 sets forth the slot display ending the free play mode by the appearance of a stop symbol.

15      Figure 7 sets forth the method of operating in the free play mode of the present invention shown in Figures 2-6.

Figure 8 sets forth the method of operating a second embodiment of the present invention.

20      Figure 9 sets forth a representation of a video display having three rows of five reels modified in another embodiment of the present invention to carry the special message.

Figure 10 shows the hidden values behind each of the symbols in Figure 9 when the message is revealed.

Figure 11 sets forth the symbols on each reel for the embodiment of Figure 9.

25      Figure 12 sets forth the functional components of the gaming terminal.

**DETAILED DESCRIPTION OF THE INVENTION**

In Figure 12, the functional block diagrams for the various components in the gaming terminal 1200 are shown. The term "gaming terminal" is used in its broadest sense is synonymous with  
5 the following terms: a gaming system, a gaming device, a gaming machine, etc. A gaming terminal can be, but not limited to, stand-alone, incorporated into another gaming terminal, etc. A gaming terminal can also be connected to, but not limited to, a network, the Internet, a progressive system, a telecommunications network, etc. It  
10 is to be appreciated that, conventionally, gaming terminal 1200 designs are vigorous and encompass a wide variety of conventional designs to incorporate any number of conventional casino games of chance.

Functionally, such gaming terminals 1200 contain a game  
15 control 1210 that includes a computer 1220, a memory 1230, a game display 1240, a player input 1250, a wager/award input/output 1260 and in the case of a network 1280 (such as in a progressive, Internet, or telecommunications environment), an I/O (or interface card) 1270.

The gaming terminal 1200 utilizes a computer 1220 which is  
20 any suitable controller, microprocessor, etc. accessing either internal or external memory 1230 over a suitable communication path 1232. The present invention is not limited to the type of computer 1220, type of memory 1230 or type of communication path 1232.

The game display 1240 in communication 1238 with computer  
25 1220 comprises many different types of game displays including, but not limited to mechanical, electronic, video, or combinations thereof. The game display, in some designs, has its own controller. The game display 1240 displays to a player of the base-game casino game of chance (such as a reel slot game) and/or any bonus games. The game display 1240 may include a single display or a plurality of  
30

displays. The nature and design of the display for the gaming terminal 1200 is vigorous as many different commercially available devices can be used.

Player input 1250 in communication 1252 with computer 1220  
5 can comprise many different conventional input devices which would include separate buttons, switches, etc. The player input 1250 can be incorporated into the game display 1240 when the game display is also a touch screen. Indeed, the player input 1250 may be separate and/or part of the game display 1240. The nature and design of the  
10 player input 1250 for the casino game of chance is vigorous as many different commercially available devices can be used.

The wager/award input/output 1260 in communication with 1236 with computer 1270 is also conventionally known and includes a wide variety of coin in, currency reader, ticket reader, credit in, coin  
15 out, ticket out, credit display, credit out, award of payoffs and prizes during the play of the game, etc. The nature and design of the wager/award input/output 1260 for the casino game of chance is vigorous as many different commercially available devices can be used .

20 The input/output 1270 is optional and is a communication module (e.g., modem, interface card, etc.) that enables external communication usually through a communication network in any one of numerous conventional fashions. The nature and design of the input/output 1270 for the gaming device 1200 is vigorous as many  
25 different commercially available devices can be used.

It is to be expressly understood that the functional block diagram gaming terminal 1200 may be represented in different functional descriptions with different components based upon gaming terminal design requirements and the like. Hence the functional blocks shown and their interconnection are meant to be illustrative and not limiting to the teachings of the present invention.  
30

Figures 1-7 set forth an embodiment of the present invention.

Figure 1 sets forth a prior art representation of a single row, five reel slot display 100. Each of the five reels 10 contains a symbol 20 which conventionally "rolls" until a final symbol 20 lands on a pay line so as to display a play outcome on the five reels at the end of the casino game of chance in the gaming terminal 1200. In Figure 1, the symbols are generically referred to as S. It is to be understood that under the teachings of the present invention any conventional multi-line mechanical reel or video reel or other type of similar video game could be utilized under the teachings of the present invention. In Figures 1-6, a five reel slot is used for illustration purposes. Hence, in a conventional fashion, a wager is received and the casino game of chance is played in normal play mode in the gaming terminal 1200 and the symbols S line up, for example, on a pay line to determine a final game outcome for a casino game of chance.

Under the teachings of the present invention and as shown in Figure 2, a special symbol 200 appears on one of the reels 10. In one variation, the special symbol 200 appears on the fifth reel. The symbol 200 is shown as M. At the end of the casino game of chance, when the special symbol M 200 aligns, the symbol M then changes into an actual message 210. There are any of a number of many conventional software ways to change the message symbol 200 into an actual message 210 such as by flipping, morphing, changing, animating, etc. The message 210, in one embodiment, reads: "Choose any other symbol to reveal your award!"

Behind each of the four remaining symbols S is a hidden award or hidden free play symbol. For example in Figure 3, "4x" and "3x" are hidden behind symbols  $S_{11}$  and  $S_2$ . The "Free Play" symbol is hidden behind  $S_4$ . The player, in Figure 3, has selected symbol  $S_6$  (by touching the symbol on the screen) which reveals a "2x" multiplier. The multipliers multiply the coin-in, wager or bet and the player receives that as an award. It is to be expressly understood that any suitable award value could be used in place of multipliers including

actual award amounts. Furthermore, only some awards can be provided so all reel positions 10 need not be filled. In the example of Figure 3, the player has selected symbol S<sub>6</sub> and is paid the award.

In Figure 3, the values in set: {4x, 2x, 3x, Free Play} are randomly assigned with the appearance of symbol M to the four reel positions so the player never knows where any one value is. Here, the player, over time, has a ¼ chance of picking the Free Play symbol 320. The set of four values can be from any desired number or contents such as chosen from a set of nine values such as for the example of Figures 1-6 of: {1x, 2x, 2x, Null, 3x, 3x, 4x, 10x, Free Play}. "Null" means no award. In this example, there is no assurance that with each M symbol, there will be a Free Play symbol randomly appearing behind the remaining four positions.

In essence, the present invention provides a bonus game within the construct of the base casino game of chance. That is, the bonus game occurs using the base game symbols S as the objects that may be chosen by the player. In the example shown in the Figure 3, these chosen symbols include multipliers (which simply award a multiplier value to the player). However, as explained next, using the base game symbols as a bonus game can launch into a Free Play mode.

In Figure 4, the player has selected symbol S<sub>4</sub> (by touching the symbol on a touch screen) in response to the message found in Figure 2. The Free Play symbol 320 is revealed such as by flipping the symbol S<sub>4</sub>. The message 210 then changes and presents instructions 400 to the player. It is to be expressly understood that such instructions 400 can appear anywhere on the display 100 in game display 1240 or in a separate display for the gaming terminal 1200. In one embodiment, the instructions 400 are optional. The instructions 400 tell the player that the player has free play until a red stop sign symbol (or other suitable symbol or event) occurs in row 30.

In Figure 5 and, in one optional embodiment, the slot display 100 turns green 500 indicating to the player the start of the free play mode. The reels 10 start spinning and the player receives a game outcome which may include a winning combination as a result of the spin. The free play mode continues until a red stop sign symbol 600 appears which ends the free play mode, as shown in Figure 6. The player keeps any awards won in all game outcomes during Free Play.

With respect to the indication shown in Figure 5 of providing a colored background 500 to start the Free Play mode, any suitable indication 500 can be utilized in the gaming terminal 1240 including a multimedia display presentation including sound, graphics, etc. Furthermore, different internal illumination in the casino game of chance such as change in lighting from fluorescent to UV lighting could be utilized. Any type of visual, audible, and/or a combination of the two could be utilized so that a player at a glance can tell that he/she is in the free play mode.

Where the base-game casino game is a slot game, play in the free play mode may use the same 10 or a different set of reels than the reels 10 used in the normal play mode. Moreover, the same or a different number of reels 10 may be employed in the free play mode as in the normal play mode. In one embodiment, some but not all of the reels 10 used in the normal play mode may be replaced for play in the free play mode. In one embodiment, one reel, such as the fifth reel, may be replaced for play in the free play mode, without replacing the other reels. Alternatively, other reels, or sets of reels, may be replaced during play in the free play mode while leaving other reels unmodified.

Optionally, selection of a winning symbol in a slot game may result in the same or different payouts (awards) in the free play mode as in the normal play mode. In one embodiment, entry into the free play mode is accompanied by a multiplier award or multiplying factor, such as a "3X" multiplying factor, or other multiplying factor, applicable

to awards in the free play mode. In this embodiment, the free-play-mode award would be three times the value of the normal-play-mode award for a given casino game outcome (for example, for a given combination of reel symbols). Use of the multiplying factor (of whatever magnitude), within the free play mode, may be applicable to base game play only, to bonus game play only, or to both base game play and bonus game play. For instance, in one variation of the "3X" multiplying factor embodiment within the free play mode, the 3X multiplying factor is applied to base game play but not to bonus game play.

It will be appreciated that multiplying factors having values less than and greater than 3 may also be used. In alternative embodiments, multiplying factors may be fractional (i.e. have values less than one). Moreover, multiplying factors are not limited to being integers but may include numbers having decimal quantities such as, but not limited to, "1.5", "3.25", "4.5". In other alternative embodiments, multiplying factors may be negative and may be either integer values or real number values.

In Figure 7, a flow chart showing the software functional operation of the present invention programmed into the gaming terminal 1210 for the casino game of chance is shown. Conventionally the casino game of chance receives 700 a wager in the gaming terminal 1200. The casino game of chance is played 710 and a game outcome results. Under the teachings of the present invention, in one embodiment, when a message symbol 200 appears, the decision 720 is made to reveal 730 a message 210. In stages 720 and/or 730, the set of values are applied randomly to the remaining symbols in the game outcome. The player inputs a signal that is received 740 by the casino game of chance in the gaming terminal 1200 which then displays 750 the symbol selection to the player. A decision is made 760 whether the displayed symbol selection is an award 310 or a free play 320.

If an award 310 has been selected by the player the award is made 770 and the casino game of chance in the gaming terminal 1200 waits to receive another wager. The award 770 is made in a conventional fashion.

5 On the other hand, if the free play 320 is selected, then the casino game of chance displays 780 instructions 400 and an indication 790 to the player such as 500. The casino game of chance is in a Free Play mode. In the Free Play mode, the casino game of chance can continually play in stage 710 without interaction from the  
10 player until a stop symbol 600 appears. Or, the player can push a conventional play button in player input 1250 to individually start each Free Play spin. Whether continuous or initiated by the player, the casino game of chance determines 795 whether the free play mode continues or whether a stop symbol 600 appears. If a stop symbol  
15 600 appears, the game ends and the casino game of chance waits to receive 700 a wager. If there is no stop symbol at the outcome of a played game, game play 710 continues.

It is to be expressly understood that variations to the method steps shown in Figure 7 can be made under the teachings of the present invention. In one variation, the message symbol 200 contains the message 210 (or the message 210 appears elsewhere in the gaming terminal 1200) so stop 730 is eliminated. The message symbol 210 can be any suitable message such as, but not limited to, a graphic, icon, letter, words, color, etc. In another variation, stages  
20 780 and 790 can be combined into a single step or stage 790 can come before the display of instruction 780. In another variation, no award exists in stages 760 or 770 and the only value randomly hidden behind the remaining symbols is free play in which case, the remaining symbols in the set of values are null; for example: {null,  
25 null, null, Free Play}.  
30

In another variation, no free play value is found in the set so steps 760, 780, 790 and 795 are eliminated. In this variation, awards

are made and the set of values do not include the Free Play value. In another variation, a Bonus Game value could be included in the set of values which when detected in stage 760 enable a bonus game to be played by the player as shown by 765. A number of conventional bonus games exist. The set of values in this variation are vigorous and could be for Figure 3: {2x, NULL, BONUS GAME, FREE SPIN}, {2x, 4x, BONUS GAME, 1x}, {NULL, BONUS GAME, FREE SPIN, NULL}, etc.

In another embodiment shown in Figure 8, the gaming terminal 1200 receives 800 a wager and the casino game of chance is played 810. The free play mode starts when at least one green "GO" symbol (or other suitable symbol) appears 820 in the outcome of the casino game of chance. A single green "GO" symbol would appear on a predetermined reel such as the first reel in one embodiment (or in any reel in other embodiments). The selected reel having at least one green "GO" symbol could, in the embodiment, also have two red "Stop" symbols. Hence, when the at least one green "GO" symbol appears, it acts as a "start" symbol which is detected 830 to place the casino game of chance in the Free Play mode. The detection 820 of one of the two "Stop" symbols would cause it to stop Free Play mode. However, should a "Stop" symbol be detected 820 during normal play of the game (i.e., before the Go symbol starts the Free Play mode), then those "Stop" signals have no effect.

In Figures 9-11 is yet another embodiment of the present invention. Figure 9 sets forth a 3x5 display 900 in the game display 1240 having five reels 10 and three rows 30. This is a conventional 3x5 display for a nine reel casino slot game of chance wherein each reel 10 visually rotates and then at the game outcome settles on a final display value such as the symbols shown in Figure 9. The 3x5 matrix 900 is visible to a player in the game display 1240 on the gaming terminal 1200. In the example of Figure 9, a message symbol 200 appears in one of the fifteen symbol positions. In this case, it is in

one of the three row positions of the fifth reel. As before in Figure 2, the message symbol 200, at the game outcome, converts into an actual message 210 as shown in Figure 3. Behind each of the remaining fourteen symbol positions are hidden multipliers 1000 and a free play 1010. In Figure 10, these are shown in dotted lines but it is to be expressly understood that the player does not see them. What the player sees in Figure 9 are the symbols S with the message symbol 200 converting into a written message 210 telling the player to touch one of the remaining symbol positions.

In Figure 10, the player has a choice of fourteen symbol position symbols to touch. The player still sees the actual symbols S as shown. Actually, in this embodiment, the player has a 1 in 14 chance of selecting the Free Play hidden symbol 1010. If the player picks the symbol in position 1020, the player receives four times (4x) the wager award. In two of the positions, the player receives the wager made to play the casino game of chance in the gaming terminal back (i.e., 1x) and in one of the symbol positions the player receives ten times the wager (i.e., 10x). However, if the player selects the free play position 1010, this embodiment of the present invention functions as above and the player continuously receives free spins (i.e., free games) until a stop symbol appears in the 3x5 matrix for the game outcome.

The set of 14 values {1x, 1x, 2x, 2x, 3x, 4x, 4x, 4x, 4x, 5x, 6x, 7x, 10x, and Free Play} which are randomly placed behind the 14 symbol positions is only an example, as any suitable set of values could be used in the design of the casino game under the teachings contained herein. As before, the 14 values can be chosen from a set of values having more than 14 values. Also, the set of values can include null and bonus game values. What constitutes a value other than a null value is vigorous and represents something of value to the player, such as free Spins, play of a Bonus Game, a Multiplier of Wager as an award, a thing, credits, play in a Progressive Game, etc.

This embodiment of the present invention as shown in Figures 9-11 is better explained with reference to Figure 11. In this example, there are twelve different symbols (i.e.,  $S_1$  through  $S_{11}$  and M). The distribution of these twelve symbols is shown in Figure 11 for each of the five reels. For example for reel 5 there are two appearances of symbol  $S_1$ , five appearances of symbol  $S_4$ , nine appearances of symbol  $S_{10}$  and one appearance of symbol M. Reel 5 has a total of sixty-three symbol appearances in the distribution shown in Figure 11. It is noted that symbol M appears only once in the five reels and that is in reel 5. Hence, the random appearance of symbol M appears averaged over a long period of time 3 in 63 plays of the casino game of chance in the gaming terminal (as there are three rows 30). By way of further explanation, the symbol  $S_1$  in reel 1 randomly appears 3 out of 32 times in the game outcome. The use of symbols S randomly appearing in each of the reels 10, of course, is conventional and is based upon a random number generator (whether in hardware or in software).

As mentioned, the outcome of the game shown in Figure 9 for the symbol M is 3 out of 63 (averaged over a long period of time) since the M symbol 200 can appear in any one of the three row 30 reel 5 positions. The player, therefore, has an expectation that in every 3 out of 63 (1/21) plays of the game (randomly over time) that the M symbol 200 appears giving the player the opportunity to select one of the remaining fourteen symbols S. In this case, the odds of selecting the Free Play symbol 1010 in Figure 10 is 1 out of 14 (averaged over a long period of time). Combining 1 out of 14 with 3 out of 63 results in the player having the chance of going into the Free Play mode 1/294 spins (i.e., 1/21 times 1/14 averaged over a long period of time).

In this embodiment, after selection of the Free Play 1010 the message M symbol 200 converts in the software of the casino game of chance to a stop symbol. Hence, when the stop signal appears

anywhere in the three row 30 positions on the fifth reel 10 the Free Play mode is over with. The appearance of the Stop Sign symbol is 3 in 63 plays (or 1/21). That is, on average over a long time once every 21 spins in Free Play mode, the player will exit Free Play mode and re-enter Normal mode of play. Hence, the player is fourteen times as likely to exit the Free Play mode than to enter it (i.e., 294 divided by 21). A player of this embodiment of the casino game of chance, over a long period of time, spends fourteen times as much time in the normal play mode as in the free play mode.

This embodiment of the present invention is vigorous in that the probabilities of entering/exiting the Free Play mode to create a casino game of chance that is exciting to the player can involve a number of variabilities. The frequency of entering the free play mode from normal play mode is less than the frequency of entering normal play mode from the free play mode. In the above example, 1/294 is less than 1/21.

Spending time in Free Play mode "costs" the house advantage. If it is assumed that the game (without Free Play mode) is set to return, on average, 85% to the player, then with the example of the above embodiment, the overall expected outcome (including both Normal and Free Play modes) becomes  $(14/15) \times (0.85 - 1) + (1/15) \times (0.85) = -8.33\%$ . Hence, the house advantage is 8.33%. In this example, the expected value (EV) for the Free Play mode itself (that is, the expected win for the player during Free Play mode per unit wager while going into Free Play mode) is calculated as the 85% return (not including Free Play)  $\times 21$  (ave. number of spins in Free Play mode) = 17.85. Thus, if the player wagers 9 lines  $\times$  2 credits per line = 18 credits when Free Play mode first initiated, the expected win for the player during Free Play mode is  $18 \times 17.85 = 321.3$  credits.

Too, the initiating means of the instant invention are not limited to using symbols as initiating means. For example, concurrent with the base game spin of the reels, a random number may be chosen

(for example, in the range 1 to 294), and should this random number match a prescribed number (for example, 1) then the Free Play mode may be initiated. In this manner, the frequency of Free Play mode may be designed to be 1 in 294, as in the example cited earlier. In 5 this case, the random number (or an icon) may be depicted to the player or may not.

While a video slot reel base casino game of chance has been used to illustrate the teachings of the present invention, the methods herein apply to other casino games of chance such as, but not limited 10 to, video poker, video Black Jack, keno, etc. For example, in a video poker game outcome, a "three of hearts" (or any other card, symbol, etc.) could be (or carry the message) the M symbol 200 wherein the player selects one of the four remaining cards to reveal one value in the set of values. In another embodiment, the player can select any 15 one of the game outcome symbols (such as any one of the cards in poker) or certain ones of the game outcome symbols (such as on "hearts" or only "aces", etc.).

The above disclosure sets forth a number of embodiments of the present invention. Those skilled in this art will however appreciate 20 that other arrangements or embodiments, not precisely set forth, could be practiced under the teachings of the present invention.